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ABSTRACT

This report: (1) investigates the declining state of the educational system in America, as measured by high school student performance in the United States and other countries; (2) identifies specific problem areas; and (3) offers multiple recommendations for improvement. The five major recommendations arrived at appear, respectively, under the headings: content, standards and expectations, time, teaching, leadership and fiscal support. Recommendations pertaining to content include the strengthening of high school graduation requirements by establishing minimum requirements for each student of: (a) 4 years of English; (b) 3 years of mathematics; (c) 3 years of science; (d) 3 years of social studies; and (e) one-half year of computer science. With regard to standards and expectations, schools, colleges, and universities are encouraged to adopt more rigorous and measurable standards and higher expectations for academic performance and student conduct. Four-year colleges and universities, in particular, are advised to raise their admission requirements. In order to improve time usage, the report advises that more time should be devoted to students learning the "New Basics," which may, in turn, require a longer school day, or a lengthened school year. Seven ways to improve teacher preparation and to make teaching a more rewarding and respected profession are listed. Six implementation guidelines are suggested for improving educational leadership and fiscal support. Appendices contain: (a) charter of the National Commission on Excellence in Education; (b) schedule of the Commission's public events: (c) list of commissioned papers; (d) list of individuals who testified at Commission hearings; (e) list of other presentations to the Commission; and (f) notable programs. (JM)

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Letter of Transmittal

Honorable T. H. Bell
Secretary of Education
U.S. Department of Education
Washington, D.C. 20202

April 26, 1983

Dear Mr. Secretary:

On August 26, 1981, you created the National Commission on Excellence in Education and directed it to present a report on the quality of education in America to you and to the American people by April of 1983.

It has been my privilege to chair this endeavor and on behalf of the members of the Commission it is my pleasure to transmit this report, *A Nation at Risk: The Imperative for Educational Reform.*

Our purpose has been to help define the problems afflicting American education and to provide solutions, not search for scapegoats. We addressed the main issues as we saw them, but have not attempted to treat the subordinate matters in any detail. We were forthright in our discussions and have been candid in our report regarding both the strengths and weaknesses of American education.

The Commission deeply believes that the problems we have discerned in American education can be both understood and corrected if the people of our country, together with those who have public responsibility in the matter, care enough and are courageous enough to do what is required.

Each member of the Commission appreciates your leadership in having asked this diverse group of persons to examine one of the central issues which will define our Nation's future. We especially welcomed your confidence throughout the course of our deliberations and your anticipation of a report free of political partisanship.

It is our collective and earnest hope that you will continue to provide leadership in this effort by assuring wide dissemination and full discussion of this report, and by encouraging appropriate action throughout the country. We believe that materials compiled by the Commission in the course of its work constitute a major resource for all persons interested in American education.

The other Commissioners and I sincerely appreciate the opportunity to have served our country as members of the National Commission on Excellence in Education, and on their behalf I remain,

Respectfully,

David Pierpont Gardner
Chairman

Members of the National Commission on Excellence in Education

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Introduction

Secretary of Education T. H. Bell created the National Commission on Excellence in Education on August 26, 1981, directing it to examine the quality of education in the United States and to make a report to the Nation and to him within 18 months of its first meeting. In accordance with the Secretary's instructions, this report contains practical recommendations for educational improvement and fulfills the Commission's responsibilities under the terms of its charter.

The Commission was created as a result of the Secretary's concern about "the widespread public perception that something is seriously remiss in our educational system." Soliciting the "support of all who care about our future," the Secretary noted that he was establishing the Commission based on his "responsibility to provide leadership, constructive criticism, and effective assistance to schools and universities."

The Commission's charter contained several specific charges to which we have given particular attention. These included:

- assessing the quality of teaching and learning in our Nation's public and private schools, colleges, and universities;
- comparing American schools and colleges with those of other advanced nations;

- studying the relationship between college admissions requirements and student achievement in high school;
- identifying educational programs which result in notable student success in college;
- assessing the degree to which major social and educational changes in the last quarter century have affected student achievement; and
- defining problems which must be faced and overcome if we are successfully to pursue the course of excellence in education.

The Commission's charter directed it to pay particular attention to teenage youth, and we have done so largely by focusing on high schools. Selective attention was given to the formative years spent in elementary schools, to higher education, and to vocational and technical programs. We refer those interested in the need for similar reform in higher education to the recent report of the American Council on Education, *To Strengthen the Quality of Higher Education.*

In going about its work the Commission has relied in the main upon five sources of information:

- papers commissioned from experts on a variety of educational issues;
- administrators, teachers, students, representatives of professional and public groups, parents, business leaders, public officials, and scholars who testified at eight meetings of the full Commission, six public hearings, two panel discussions, a symposium, and a series of meetings organized by the Department of Education's Regional Offices;
- existing analyses of problems in education;
- letters from concerned citizens, teachers, and administrators who volunteered extensive comments on problems and possibilities in American education; and

- descriptions of notable programs and promising approaches in education.

To these public-minded citizens who took the trouble to share their concerns with us—frequently at their own expense in time, money, and effort—we extend our thanks. In all cases, we have benefited from their advice and taken their views into account; how we have treated their suggestions is, of course, our responsibility alone. In addition, we are grateful to the individuals in schools, universities, foundations, business, government, and communities throughout the United States who provided the facilities and staff so necessary to the success of our many public functions.

The Commission was impressed during the course of its activities by the diversity of opinion it received regarding the condition of American education and by conflicting views about what should be done. In many ways, the membership of the Commission itself reflected that diversity and difference of opinion during the course of its work. This report, nevertheless, gives evidence that men and women of good will can agree on common goals and on ways to pursue them.

The Commission's charter, the authors and topics of commissioned papers, a list of the public events, and a roster of the Commission's staff are included in the appendices which complete this volume.

All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment, and to manage their own lives, thereby serving not only their own interests but also the progress of society itself.

A Nation At Risk

Our Nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world. This report is concerned with only one of the many causes and dimensions of the problem, but it is the one that undergirds American prosperity, security, and civility. We report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. What was unimaginable a generation ago has begun to occur—others are matching and surpassing our educational attainments.

If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. We have even squandered the gains in student achievement made in the wake of the Sputnik challenge. Moreover, we have dismantled essential support systems which helped make those gains possible. We have, in effect, been committing an act of unthinking, unilateral educational disarmament.

Our society and its educational institutions seem to have lost sight of the basic purposes of schooling, and of the

high expectations and disciplined effort needed to attain them. This report, the result of 18 months of study, seeks to generate reform of our educational system in fundamental ways and to renew the Nation's commitment to schools and colleges of high quality throughout the length and breadth of our land.

That we have compromised this commitment is, upon reflection, hardly surprising, given the multitude of often conflicting demands we have placed on our Nation's schools and colleges. They are routinely called on to provide solutions to personal, social, and political problems that the home and other institutions either will not or cannot resolve. We must understand that these demands on our schools and colleges often exact an educational cost as well as a financial one.

On the occasion of the Commission's first meeting, President Reagan noted the central importance of education in American life when he said: "Certainly there are few areas of American life as important to our society, to our people, and to our families as our schools and colleges." This report, therefore, is as much an open letter to the American people as it is a report to the Secretary of Education. We are confident that the American people, properly informed, will do what is right for their children and for the generations to come.

The Risk

History is not kind to idlers. The time is long past when America's destiny was assured simply by an abundance of natural resources and inexhaustible human enthusiasm, and by our relative isolation from the malignant problems of older civilizations. The world is indeed one global village. We live among determined, well-educated, and strongly motivated competitors. We compete with them for international standing and markets, not only with products but also with the ideas of our laboratories and neighborhood workshops. America's position in the world may once have been reasonably secure with only a few exceptionally well-trained men and women. It is no longer.

The risk is not only that the Japanese make automobiles more efficiently than Americans and have government subsidies for development and export. It is not just that the South Koreans recently built the world's most efficient steel

mill, or that American machine tools, once the pride of the world, are being displaced by German products. It is also that these developments signify a redistribution of trained capability throughout the globe. Knowledge, learning, information, and skilled intelligence are the new raw materials of international commerce and are today spreading throughout the world as vigorously as miracle drugs, synthetic fertilizers, and blue jeans did earlier. If only to keep and improve on the slim competitive edge we still retain in world markets, we must dedicate ourselves to the reform of our educational system for the benefit of all—old and young alike, affluent and poor, majority and minority. Learning is the indispensable investment required for success in the "information age" we are entering.

Our concern, however, goes well beyond matters such as industry and commerce. It also includes the intellectual, moral, and spiritual strengths of our people which knit together the very fabric of our society. The people of the United States need to know that individuals in our society who do not possess the levels of skill, literacy, and training essential to this new era will be effectively disenfranchised, not simply from the material rewards that accompany competent performance, but also from the chance to participate fully in our national life. A high level of shared education is essential to a free, democratic society and to the fostering of a common culture, especially in a country that prides itself on pluralism and individual freedom.

For our country to function, citizens must be able to reach some common understandings on complex issues, often on short notice and on the basis of conflicting or incomplete evidence. Education helps form these common understandings, a point Thomas Jefferson made long ago in his justly famous dictum:

> I know no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them but to inform their discretion.

Part of what is at risk is the promise first made on this continent: All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment and to manage their own lives, thereby serving not only their own interests but also the progress of society itself.

Indicators of the Risk

Over half the population of gifted students do not match their tested ability with comparable achievement in school.

The educational dimensions of the risk before us have been amply documented in testimony received by the Commission. For example:

- International comparisons of student achievement, completed a decade ago, reveal that on 19 academic tests American students were never first or second and, in comparison with other industrialized nations, were last seven times.
- Some 23 million American adults are functionaily illiterate by the simplest tests of everyday reading, writing, and comprehension.
- About 13 percent of all 17-year-olds in the United States can be considered functionally illiterate. Functional illiteracy among minority youth may run as high as 40 percent.
- Average achievement of high school students on most standardized tests is now lower than 26 years ago when Sputnik was launched.
- Over half the population of gifted students do not match their tested ability with comparable achievement in school.
- The College Board's Scholastic Aptitude Tests (SAT) demonstrate a virtually unbroken decline from 1963 to

1980. Average verbal scores fell over 50 points and average mathematics scores dropped nearly 40 points.

- College Board achievement tests also reveal consistent declines in recent years in such subjects as physics and English.

- Both the number and proportion of students demonstrating superior achievement on the SATs (i.e., those with scores of 650 or higher) have also dramatically declined.

- Many 17-year-olds do not possess the "higher order" intellectual skills we should expect of them. Nearly 40 percent cannot draw inferences from written material; only one-fifth can write a persuasive essay; and only one-third can solve a mathematics problem requiring several steps.

- There was a steady decline in science achievement scores of U.S. 17-year-olds as measured by national assessments of science in 1969, 1973, and 1977.

- Between 1975 and 1980, remedial mathematics courses in public 4-year colleges increased by 72 percent and now constitute one-quarter of all mathematics courses taught in those institutions.

- Average tested achievement of students graduating from college is also lower.

- Business and military leaders complain that they are required to spend millions of dollars on costly remedial education and training programs in such basic skills as reading, writing, spelling, and computation. The Department of the Navy, for example, reported to the Commission that one-quarter of its recent recruits cannot read at the ninth grade level, the minimum needed simply to understand written safety instructions. Without remedial work they cannot even begin, much less complete, the sophisticated training essential in much of the modern military.

These deficiencies come at a time when the demand for highly skilled workers in new fields is accelerating rapidly. For example:

- Computers and computer-controlled equipment are penetrating every aspect of our lives—homes, factories, and offices.
- One estimate indicates that by the turn of the century millions of jobs will involve laser technology and robotics.
- Technology is radically transforming a host of other occupations. They include health care, medical science, energy production, food processing, construction, and the building, repair, and maintenance of sophisticated scientific, educational, military, and industrial equipment.

Analysts examining these indicators of student performance and the demands for new skills have made some chilling observations. Educational researcher Paul Hurd concluded at the end of a thorough national survey of student achievement that within the context of the modern scientific revolution, "We are raising a new generation of Americans that is scientifically and technologically illiterate." In a similar vein, John Slaughter, a former Director of the National Science Foundation, warned of "a growing chasm between a small scientific and technological elite and a citizenry ill-informed, indeed uninformed, on issues with a science component."

But the problem does not stop there, nor do all observers see it the same way. Some worry that schools may emphasize such rudiments as reading and computation at the expense of other essential skills such as comprehension, analysis, solving problems, and drawing conclusions. Still others are concerned that an over-emphasis on technical and occupational skills will leave little time for studying the arts and humanities that so enrich daily life, help maintain civility, and develop a sense of community. Knowledge of the humanities, they maintain, must be harnessed to science and technology if the latter are to remain creative and humane, just as the humanities need to be informed by science and technology if

they are to remain relevant to the human condition. Another analyst, Paul Copperman, has drawn a sobering conclusion. Until now, he has noted:

> Each generation of Americans has outstripped its parents in education, in literacy, and in economic attainment. For the first time in the history of our country, the educational skills of one generation will not surpass, will not equal, will not even approach, those of their parents.

It is important, of course, to recognize that *the average citizen* today is better educated and more knowledgeable than the average citizen of a generation ago—more literate, and exposed to more mathematics, literature, and science. The positive impact of this fact on the well-being of our country and the lives of our people cannot be overstated. Nevertheless, *the average graduate* of our schools and colleges today is not as well-educated as the average graduate of 25 or 35 years ago, when a much smaller proportion of our population completed high school and college. The negative impact of this fact likewise cannot be overstated.

Hope and Frustration

Statistics and their interpretation by experts show only the surface dimension of the difficulties we face. Beneath them lies a tension between hope and frustration that characterizes current attitudes about education at every level.

We have heard the voices of high school and college students, school board members, and teachers; of leaders of industry, minority groups, and higher education; of parents and State officials. We could hear the hope evident in their commitment to quality education and in their descriptions of outstanding programs and schools. We could also hear the intensity of their frustration, a growing impatience with shoddiness in many walks of American life, and the complaint that this shoddiness is too often reflected in our schools and colleges. Their frustration threatens to overwhelm their hope.

What lies behind this emerging national sense of frustration can be described as both a dimming of personal expec-

tations and the fear of losing a shared vision for America.

On the personal level the student, the parent, and the caring teacher all perceive that a basic promise is not being kept. More and more young people emerge from high school ready neither for college nor for work. This predicament becomes more acute as the knowledge base continues its rapid expansion, the number of traditional jobs shrinks, and new jobs demand greater sophistication and preparation.

We do not believe that a public commitment to excellence and educational reform must be made at the expense of a strong public commitment to the equitable treatment of our diverse population.

On a broader scale, we sense that this undertone of frustration has significant political implications, for it cuts across ages, generations, races, and political and economic groups. We have come to understand that the public will demand that educational and political leaders act forcefully and effectively on these issues. Indeed, such demands have already appeared and could well become a unifying national preoccupation. This unity, however, can be achieved only if we avoid the unproductive tendency of some to search for scapegoats among the victims, such as the beleaguered teachers.

On the positive side is the significant movement by political and educational leaders to search for solutions—so far centering largely on the nearly desperate need for increased support for the teaching of mathematics and science. This movement is but a start on what we believe is a larger and more educationally encompassing need to improve teaching and learning in fields such as English, history, geography, economics, and foreign languages. We believe this movement must be broadened and directed toward reform and excellence throughout education.

Excellence in Education

We define "excellence" to mean several related things. At the level of the *individual learner,* it means performing on the boundary of individual ability in ways that test and push back personal limits, in school and in the workplace. Excellence characterizes a *school or college* that sets high expectations and goals for all learners, then tries in every way possible to help students reach them. Excellence characterizes a *society* that has adopted these policies, for it will then be prepared through the education and skill of its people to respond to the challenges of a rapidly changing world. Our Nation's people

and its schools and colleges must be committed to achieving excellence in all these senses.

We do not believe that a public commitment to excellence and educational reform must be made at the expense of a strong public commitment to the equitable treatment of our diverse population. The twin goals of equity and high-quality schooling have profound and practical meaning for our economy and society, and we cannot permit one to yield to the other either in principle or in practice. To do so would deny young people their chance to learn and live according to their aspirations and abilities. It also would lead to a generalized accommodation to mediocrity in our society on the one hand or the creation of an undemocratic elitism on the other.

Our goal must be to develop the talents of all to their fullest. Attaining that goal requires that we expect and assist all students to work to the limits of their capabilities. We should expect schools to have genuinely high standards rather than minimum ones, and parents to support and encourage their children to make the most of their talents and abilities.

The search for solutions to our educational problems must also include a commitment to life-long learning. The task of rebuilding our system of learning is enormous and must be properly understood and taken seriously: Although a million and a half new workers enter the economy each year from our schools and colleges, the adults working today will still make up about 75 percent of the workforce in the year 2000. These workers, and new entrants into the workforce, will need further education and retraining if they—and we as a Nation—are to thrive and prosper.

The Learning Society

In a world of ever-accelerating competition and change in the conditions of the workplace, of ever-greater danger, and of ever-larger opportunities for those prepared to meet them, educational reform should focus on the goal of creating a Learning Society. At the heart of such a society is the commitment to a set of values and to a system of education that affords all members the opportunity to stretch their minds to full capacity, from early childhood through adulthood, learning more as the world itself changes. Such a society has as a basic

foundation the idea that education is important not only because of what it contributes to one's career goals but also because of the value it adds to the general quality of one's life. Also at the heart of the Learning Society are educational opportunities extending far beyond the traditional institutions of learning, our schools and colleges. They extend into homes and workplaces; into libraries, art galleries, museums, and science centers; indeed, into every place where the individual can develop and mature in work and life. In our view, formal schooling in youth is the essential foundation for learning throughout one's life. But without life-long learning, one's skills will become rapidly dated.

In contrast to the ideal of the Learning Society, however, we find that for too many people education means doing the minimum work necessary for the moment, then coasting through life on what may have been learned in its first quarter. But this should not surprise us because we tend to express our educational standards and expectations largely in terms of "minimum requirements." And where there should be a coherent continuum of learning, we have none, but instead an often incoherent, outdated patchwork quilt. Many individual, sometimes heroic, examples of schools and colleges of great merit do exist. Our findings and testimony confirm the vitality of a number of notable schools and programs, but their very distinction stands out against a vast mass shaped by tensions and pressures that inhibit systematic academic and vocational achievement for the majority of students. In some metropolitan areas basic literacy has become the goal rather than the starting point. In some colleges maintaining enrollments is of greater day-to-day concern than maintaining rigorous academic standards. And the ideal of academic excellence as the primary goal of schooling seems to be fading across the board in American education.

Thus, we issue this call to all who care about America and its future: to parents and students; to teachers, administrators, and school board members; to colleges and industry; to union members and military leaders; to governors and State legislators; to the President; to members of Congress and other public officials; to members of learned and scientific societies; to the print and electronic media; to concerned citizens everywhere. America is at risk.

We are confident that America can address this risk. If the tasks we set forth are initiated now and our recommendations are fully realized over the next several years, we can expect reform of our Nation's schools, colleges, and universities. This would also reverse the current declining trend—a trend that stems more from weakness of purpose, confusion of vision, underuse of talent, and lack of leadership, than from conditions beyond our control.

The Tools at Hand

It is our conviction that the essential raw materials needed to reform our educational system are waiting to be mobilized through effective leadership:

- the natural abilities of the young that cry out to be developed and the undiminished concern of parents for the well-being of their children;
- the commitment of the Nation to high retention rates in schools and colleges and to full access to education for all;
- the persistent and authentic American dream that superior performance can raise one's state in life and shape one's own future;
- the dedication, against all odds, that keeps teachers serving in schools and colleges, even as the rewards diminish;
- our better understanding of learning and teaching and the implications of this knowledge for school practice, and the numerous examples of local success as a result of superior effort and effective dissemination;
- the ingenuity of our policymakers, scientists, State and local educators, and scholars in formulating solutions once problems are better understood;
- the traditional belief that paying for education is an investment in ever-renewable human resources that are more durable and flexible than capital plant and

equipment, and the availability in this country of sufficient financial means to invest in education;

- the equally sound tradition, from the Northwest Ordinance of 1787 until today, that the Federal Government should supplement State, local, and other resources to foster key national educational goals; and

- the voluntary efforts of individuals, businesses, and parent and civic groups to cooperate in strengthening educational programs.

These raw materials, combined with the unparalleled array of educational organizations in America, offer us the possibility to create a Learning Society, in which public, private, and parochial schools; colleges and universities; vocational and technical schools and institutes; libraries; science centers, museums, and other cultural institutions; and corporate training and retraining programs offer opportunities and choices for all to learn throughout life.

The Public's Commitment

Of all the tools at hand, the public's support for education is the most powerful. In a message to a National Academy of Sciences meeting in May 1982, President Reagan commented on this fact when he said:

> This public awareness—and I hope public action—is long overdue. . . . This country was built on American respect for education. . . . Our challenge now is to create a resurgence of that thirst for education that typifies our Nation's history.

The most recent (1982) Gallup Poll of the *Public's Attitudes Toward the Public Schools* strongly supported a theme heard during our hearings: People are steadfast in their belief that education is the major foundation for the future strength of this country. They even considered education more important than developing the best industrial system or the strong-

est military force, perhaps because they understood education as the cornerstone of both. They also held that education is "extremely important" to one's future success, and that public education should be the top priority for additional Federal funds. Education occupied first place among 12 funding categories considered in the survey—above health care, welfare, and military defense, with 55 percent selecting public education as one of their first three choices. Very clearly, the public understands the primary importance of education as the foundation for a satisfying life, an enlightened and civil society, a strong economy, and a secure Nation.

At the same time, the public has no patience with undemanding and superfluous high school offerings. In another survey, more than 75 percent of all those questioned believed every student planning to go to college should take 4 years of mathematics, English, history/U.S. government, and science, with more than 50 percent adding 2 years each of a foreign language and economics or business. The public even supports requiring much of this curriculum for students who do not plan to go to college. These standards far exceed the strictest high school graduation requirements of any State today, and they also exceed the admission standards of all but a handful of our most selective colleges and universities.

Another dimension of the public's support offers the prospect of constructive reform. The best term to characterize it may simply be the honorable word "patriotism." Citizens know intuitively what some of the best economists have shown in their research, that education is one of the chief engines of a society's material well-being. They know, too, that education is the common bond of a pluralistic society and helps tie us to other cultures around the globe. Citizens also know in their bones that the safety of the United States depends principally on the wit, skill, and spirit of a self-confident people, today and tomorrow. It is, therefore, essential—especially in a period of long-term decline in educational achievement—for government at all levels to affirm its responsibility for nurturing the Nation's intellectual capital.

And perhaps most important, citizens know and believe that the meaning of America to the rest of the world must be something better than it seems to many today. Americans like to think of this Nation as the preeminent country for

generating the great ideas and material benefits for all mankind. The citizen is dismayed at a steady 15-year decline in industrial productivity, as one great American industry after another falls to world competition. The citizen wants the country to act on the belief, expressed in our hearings and by the large majority in the Gallup Poll, that education should be at the top of the Nation's agenda.

Findings

We conclude that declines in educational performance are in large part the result of disturbing inadequacies in the way the educational process itself is often conducted. The findings that follow, culled from a much more extensive list, reflect four important aspects of the educational process: content, expectations, time, and teaching.

Findings Regarding Content

By content we mean the very "stuff" of education, the curriculum. Because of our concern about the curriculum, the Commission examined patterns of courses high school students took in 1964-69 compared with course patterns in 1976-81. On the basis of these analyses we conclude:

- Secondary school curricula have been homogenized, diluted, and diffused to the point that they no longer have a central purpose. In effect, we have a cafeteria-style curriculum in which the appetizers and desserts can easily be mistaken for the main courses. Students have migrated from vocational and college preparatory programs to "general track" courses in large numbers. The proportion of students taking a general program of study has increased from 12 percent in 1964 to 42 percent in 1979.

- This curricular smorgasbord, combined with extensive student choice, explains a great deal about where we find ourselves today. We offer intermediate algebra, but only 31 percent of our recent high school graduates complete it; we offer French I, but only 13 percent complete it; and we offer geography, but only

16 percent complete it. Calculus is available in schools enrolling about 60 percent of all students, but only 6 percent of all students complete it.

- Twenty-five percent of the credits earned by general track high school students are in physical and health education, work experience outside the school, remedial English and mathematics, and personal service and development courses, such as training for adulthood and marriage.

Findings Regarding Expectations

We define expectations in terms of the level of knowledge, abilities, and skills school and college graduates should possess. They also refer to the time, hard work, behavior, self-discipline, and motivation that are essential for high student achievement. Such expectations are expressed to students in several different ways:

- by grades, which reflect the degree to which students demonstrate their mastery of subject matter;
- through high school and college graduation requirements, which tell students which subjects are most important;
- by the presence or absence of rigorous examinations requiring students to demonstrate their mastery of content and skill before receiving a diploma or a degree;
- by college admissions requirements, which reinforce high school standards; and
- by the difficulty of the subject matter students confront in their texts and assigned readings.

Our analyses in each of these areas indicate notable deficiencies:

- The amount of homework for high school seniors has decreased (two-thirds report less than 1 hour a night)

and grades have risen as average student achievement has been declining.

- In many other industrialized nations, courses in mathematics (other than arithmetic or general mathematics), biology, chemistry, physics, and geography start in grade 6 and are required of *all* students. The time spent on these subjects, based on class hours, is about three times that spent by even the most science-oriented U.S. students, i.e., those who select 4 years of science and mathematics in secondary school.

- A 1980 State-by-State survey of high school diploma requirements reveals that only eight States require high schools to offer foreign language instruction, but none requires students to take the courses. Thirty-five States require only 1 year of mathematics, and 36 require only 1 year of science for a diploma.

- In 13 States, 50 percent or more of the units required for high school graduation may be electives chosen by the student. Given this freedom to choose the substance of half or more of their education, many students opt for less demanding personal service courses, such as bachelor living.

- "Minimum competency" examinations (now required in 37 States) fall short of what is needed, as the "minimum" tends to become the "maximum," thus lowering educational standards for all.

- One-fifth of all 4-year public colleges in the United States must accept every high school graduate within the State regardless of program followed or grades, thereby serving notice to high school students that they can expect to attend college even if they do not follow a demanding course of study in high school or perform well.

- About 23 percent of our more selective colleges and universities reported that their general level of selectivity declined during the 1970s, and 29 percent reported reducing the number of specific high school

courses required for admission (usually by dropping foreign language requirements, which are now specified as a condition for admission by only one-fifth of our institutions of higher education).

- Too few experienced teachers and scholars are involved in writing textbooks. During the past decade or so a large number of texts have been "written down" by their publishers to ever-lower reading levels in response to perceived market demands.

- A recent study by Education Products Information Exchange revealed that a majority of students were able to master 80 percent of the material in some of their subject-matter texts before they had even opened the books. Many books do not challenge the students to whom they are assigned.

- Expenditures for textbooks and other instructional materials have declined by 50 percent over the past 17 years. While some recommend a level of spending on texts of between 5 and 10 percent of the operating costs of schools, the budgets for basal texts and related materials have been dropping during the past decade and a half to only 0.7 percent today.

Findings Regarding Time

Evidence presented to the Commission demonstrates three disturbing facts about the use that American schools and students make of time: (1) compared to other nations, American students spend much less time on school work; (2) time spent in the classroom and on homework is often used ineffectively; and (3) schools are not doing enough to help students develop either the study skills required to use time well or the willingness to spend more time on school work.

- In England and other industrialized countries, it is not unusual for academic high school students to spend 8 hours a day at school, 220 days per year. In the United States, by contrast, the typical school day lasts 6 hours and the school year is 180 days.

- In many schools, the time spent learning how to cook and drive counts as much toward a high school diploma as the time spent studying mathematics, English, chemistry, U.S. history, or biology.

- A study of the school week in the United States found that some schools provided students only 17 hours of academic instruction during the week, and the average school provided about 22.

- A California study of individual classrooms found that because of poor management of classroom time, some elementary students received only one-fifth of the instruction others received in reading comprehension.

- In most schools, the teaching of study skills is haphazard and unplanned. Consequently, many students complete high school and enter college without disciplined and systematic study habits.

Findings Regarding Teaching

The Commission found that not enough of the academically able students are being attracted to teaching; that teacher preparation programs need substantial improvement; that the professional working life of teachers is on the whole unacceptable; and that a serious shortage of teachers exists in key fields.

- Too many teachers are being drawn from the bottom quarter of graduating high school and college students.

- The teacher preparation curriculum is weighted heavily with courses in "educational methods" at the expense of courses in subjects to be taught. A survey of 1,350 institutions training teachers indicated that 41 percent of the time of elementary school teacher candidates is spent in education courses, which reduces the amount of time available for subject matter courses.

- The average salary after 12 years of teaching is only

$17,000 per year, and many teachers are required to supplement their income with part-time and summer employment. In addition, individual teachers have little influence in such critical professional decisions as, for example, textbook selection.

- Despite widespread publicity about an overpopulation of teachers, severe shortages of certain kinds of teachers exist: in the fields of mathematics, science, and foreign languages; and among specialists in education for gifted and talented, language minority, and handicapped students.

- The shortage of teachers in mathematics and science is particularly severe. A 1981 survey of 45 States revealed shortages of mathematics teachers in 43 States, critical shortages of earth sciences teachers in 33 States, and of physics teachers everywhere.

- Half of the newly employed mathematics, science, and English teachers are not qualified to teach these subjects; fewer than one-third of U.S. high schools offer physics taught by qualified teachers.

Recommendations

In light of the urgent need for improvement, both immediate and long term, this Commission has agreed on a set of recommendations that the American people can begin to act on now, that can be implemented over the next several years, and that promise lasting reform. The topics are familiar; there is little mystery about what we believe must be done. Many schools, districts, and States are already giving serious and constructive attention to these matters, even though their plans may differ from our recommendations in some details.

We wish to note that we refer to public, private, and parochial schools and colleges alike. All are valuable national resources. Examples of actions similar to those recommended below can be found in each of them.

We must emphasize that the variety of student aspirations, abilities, and preparation requires that appropriate content be available to satisfy diverse needs. Attention must be directed to both the nature of the content available and to the needs of particular learners. The most gifted students, for example, may need a curriculum enriched and accelerated beyond even the needs of other students of high ability. Similarly, educationally disadvantaged students may require special curriculum materials, smaller classes, or individual tutoring to help them master the material presented. Nevertheless, there remains a common expectation: We must demand the best effort and performance from all students, whether they are gifted or less able, affluent or disadvantaged, whether destined for college, the farm, or industry.

Our recommendations are based on the beliefs that everyone can learn, that everyone is born with an *urge* to learn which can be nurtured, that a solid high school education is within the reach of virtually all, and that life-long learning will equip people with the skills required for new careers and for citizenship.

Recommendation A: Content

We recommend *that State and local high school graduation requirements be strengthened and that,* at a minimum, all *students seeking a diploma be required to lay the foundations in the Five New Basics by taking the following curriculum during their 4 years of high school: (a) 4 years of English; (b) 3 years of mathematics; (c) 3 years of science; (d) 3 years of social studies; and (e) one-half year of computer science. For the college-bound, 2 years of foreign language in high school are strongly recommended in addition to those taken earlier.*

Whatever the student's educational or work objectives, knowledge of the New Basics is the foundation of success for the after-school years and, therefore, forms the core of the modern curriculum. A high level of shared education in these Basics, together with work in the fine and performing arts and foreign languages, constitutes the mind and spirit of our cul-

ture. The following Implementing Recommendations are intended as illustrative descriptions. They are included here to clarify what we mean by the essentials of a strong curriculum.

Implementing Recommendations

1. The teaching of *English* in high school should equip graduates to: (a) comprehend, interpret, evaluate, and use what they read; (b) write well-organized, effective papers; (c) listen effectively and discuss ideas intelligently; and (d) know our literary heritage and how it enhances imagination and ethical understanding, and how it relates to the customs, ideas, and values of today's life and culture.

2. The teaching of *mathematics* in high school should equip graduates to: (a) understand geometric and algebraic concepts; (b) understand elementary probability and statistics; (c) apply mathematics in everyday situations; and (d) estimate, approximate, measure, and test the accuracy of their calculations. In addition to the traditional sequence of studies available for college-bound students, new, equally demanding mathematics curricula need to be developed for those who do not plan to continue their formal education immediately.

3. The teaching of *science* in high school should provide graduates with an introduction to: (a) the concepts, laws, and processes of the physical and biological sciences; (b) the methods of scientific inquiry and reasoning; (c) the application of scientific knowledge to everyday life; and (d) the social and environmental implications of scientific and technological development. Science courses must be revised and updated for both the college-bound and those not intending to go to college. An example of such work is the American Chemical Society's "Chemistry in the Community" program.

4. The teaching of *social studies* in high school should be designed to: (a) enable students to fix their places and

possibilities within the larger social and cultural structure; (b) understand the broad sweep of both ancient and contemporary ideas that have shaped our world; and (c) understand the fundamentals of how our economic system works and how our political system functions; and (d) grasp the difference between free and repressive societies. An understanding of each of these areas is requisite to the informed and committed exercise of citizenship in our free society.

5. The teaching of *computer science* in high school should equip graduates to: (a) understand the computer as an information, computation, and communication device; (b) use the computer in the study of the other Basics and for personal and work-related purposes; and (c) understand the world of computers, electronics, and related technologies.

In addition to the New Basics, other important curriculum matters must be addressed.

6. Achieving proficiency in a *foreign language* ordinarily requires from 4 to 6 years of study and should, therefore, be started in the elementary grades. We believe it is desirable that students achieve such proficiency because study of a foreign language introduces students to non-English-speaking cultures, heightens awareness and comprehension of one's native tongue, and serves the Nation's needs in commerce, diplomacy, defense, and education.

7. The high school curriculum should also provide students with programs requiring rigorous effort in subjects that advance students' personal, educational, and occupational goals, such as the fine and performing arts and vocational education. These areas complement the New Basics, and they should demand the same level of performance as the Basics.

8. The curriculum in the crucial eight grades leading to the high school years should be specifically designed to provide a sound base for study in those and later years in such areas as English language development

and writing, computational and problem solving skills, science, social studies, foreign language, and the arts. These years should foster an enthusiasm for learning and the development of the individual's gifts and talents.

9. We encourage the continuation of efforts by groups such as the American Chemical Society, the American Association for the Advancement of Science, the Modern Language Association, and the National Councils of Teachers of English and Teachers of Mathematics, to revise, update, improve, and make available new and more diverse curricular materials. We applaud the consortia of educators and scientific, industrial, and scholarly societies that cooperate to improve the school curriculum.

Recommendation B: Standards and Expectations

We recommend *that schools, colleges, and universities adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct, and that 4-year colleges and universities raise their requirements for admission. This will help students do their best educationally with challenging materials in an environment that supports learning and authentic accomplishment.*

Implementing Recommendations

1. Grades should be indicators of academic achievement so they can be relied on as evidence of a student's readiness for further study.

2. Four-year colleges and universities should raise their admissions requirements and advise all potential applicants of the standards for admission in terms of specific courses required, performance in these areas, and levels of achievement on standardized achievement tests in each of the five Basics and, where applicable, foreign languages.

3. Standardized tests of achievement (not to be confused with aptitude tests) should be administered at major transition points from one level of schooling to another and particularly from high school to college or work. The purposes of these tests would be to: (a) certify the student's credentials; (b) identify the need for remedial intervention; and (c) identify the opportunity for advanced or accelerated work. The tests should be administered as part of a nationwide (but not Federal) system of State and local standardized tests. This system should include other diagnostic procedures that assist teachers and students to evaluate student progress.

4. Textbooks and other tools of learning and teaching should be upgraded and updated to assure more rigorous content. We call upon university scientists, scholars, and members of professional societies, in collaboration with master teachers, to help in this task, as they did in the post-Sputnik era. They should assist willing publishers in developing the products or publish their own alternatives where there are persistent in adequacies.

5. In considering textbooks for adoption, States and school districts should: (a) evaluate texts and other materials on their ability to present rigorous and challenging material clearly; and (b) require publishers to furnish evaluation data on the material's effectiveness.

6. Because no textbook in any subject can be geared to the needs of all students, funds should be made available to support text development in "thin-market" areas, such as those for disadvantaged students, the learning disabled, and the gifted and talented.

7. To assure quality, all publishers should furnish evidence of the quality and appropriateness of textbooks, based on results from field trials and credible evaluations. In view of the enormous numbers and varieties

of texts available, more widespread consumer information services for purchasers are badly needed.

8. New instructional materials should reflect the most current applications of technology in appropriate curriculum areas, the best scholarship in each discipline, and research in learning and teaching.

Recommendation C: Time

We recommend *that significantly more time be devoted to learning the New Basics. This will require more effective use of the existing school day, a longer school day, or a lengthened school year.*

Implementing Recommendations

1. Students in high schools should be assigned far more homework than is now the case.

2. Instruction in effective study and work skills, which are essential if school and independent time is to be used efficiently, should be introduced in the early grades and continued throughout the student's schooling.

3. School districts and State legislatures should strongly consider 7-hour school days, as well as a 200- to 220-day school year.

4. The time available for learning should be expanded through better classroom management and organization of the school day. If necessary, additional time should be found to meet the special needs of slow learners, the gifted, and others who need more instructional diversity than can be accommodated during a conventional school day or school year.

5. The burden on teachers for maintaining discipline should be reduced through the development of firm and fair codes of student conduct that are enforced consistently, and by considering alternative class-

rooms, programs, and schools to meet the needs of continually disruptive students.

6. Attendance policies with clear incentives and sanctions should be used to reduce the amount of time lost through student absenteeism and tardiness.

7. Administrative burdens on the teacher and related intrusions into the school day should be reduced to add time for teaching and learning.

8. Placement and grouping of students, as well as promotion and graduation policies, should be guided by the academic progress of students and their instructional needs, rather than by rigid adherence to age.

Recommendation D: Teaching

This recommendation *consists of seven parts. Each is intended to improve the preparation of teachers or to make teaching a more rewarding and respected profession. Each of the seven stands on its own and should not be considered solely as an implementing recommendation.*

1. Persons preparing to teach should be required to meet high educational standards, to demonstrate an aptitude for teaching, and to demonstrate competence in an academic discipline. Colleges and universities offering teacher preparation programs should be judged by how well their graduates meet these criteria.

2. Salaries for the teaching profession should be increased and should be professionally competitive, market-sensitive, and performance-based. Salary, promotion, tenure, and retention decisions should be tied to an effective evaluation system that includes peer review so that superior teachers can be rewarded, average ones encouraged, and poor ones either improved or terminated.

3. School boards should adopt an 11-month contract for teachers. This would ensure time for curriculum and professional development, programs for students with special needs, and a more adequate level of teacher compensation.

4. School boards, administrators, and teachers should cooperate to develop career ladders for teachers that distinguish among the beginning instructor, the experienced teacher, and the master teacher.

5. Substantial nonschool personnel resources should be employed to help solve the immediate problem of the shortage of mathematics and science teachers. Qualified individuals including recent graduates with mathematics and science degrees, graduate students, and industrial and retired scientists could, with appropriate preparation, immediately begin teaching in these fields. A number of our leading science centers have the capacity to begin educating and retraining teachers immediately. Other areas of critical teacher need, such as English, must also be addressed.

6. Incentives, such as grants and loans, should be made available to attract outstanding students to the teaching profession, particularly in those areas of critical shortage.

7. Master teachers should be involved in designing teacher preparation programs and in supervising teachers during their probationary years.

Recommendation E: Leadership and Fiscal Support

We recommend *that citizens across the Nation hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms, and that citizens provide the fiscal support and stability required to bring about the reforms we propose.*

Implementing Recommendations

1. Principals and superintendents must play a crucial leadership role in developing school and community support for the reforms we propose, and school boards must provide them with the professional development and other support required to carry out their leadership role effectively. The Commission stresses the distinction between leadership skills involving persuasion, setting goals and developing community consensus behind them, and managerial and supervisory skills. Although the latter are necessary, we believe that school boards must consciously develop leadership skills at the school and district levels if the reforms we propose are to be achieved.

2. State and local officials, including school board members, governors, and legislators, have *the primary responsibility* for financing and governing the schools, and should incorporate the reforms we propose in their educational policies and fiscal planning.

3. The Federal Government, in cooperation with States and localities, should help meet the needs of key groups of students such as the gifted and talented, the socioeconomically disadvantaged, minority and language minority students, and the handicapped. In combination these groups include both national resources and the Nation's youth who are most at risk.

4. In addition, we believe the Federal Government's role includes several functions of national consequence that States and localities alone are unlikely to be able to meet: protecting constitutional and civil rights for students and school personnel; collecting data, statistics, and information about education generally; supporting curriculum improvement and research on teaching, learning, and the management of schools; supporting teacher training in areas of critical shortage or key national needs; and providing student financial assistance and research and graduate training. We believe the assistance of the Federal Government should be provided with a minimum of administrative burden and intrusiveness.

5. The Federal Government has *the primary responsibility* to identify the national interest in education. It should also help fund and support efforts to protect and promote that interest. It must provide the national leadership to ensure that the Nation's public and private resources are marshaled to address the issues discussed in this report.

6. This Commission calls upon educators, parents, and public officials at all levels to assist in bringing about the educational reform proposed in this report. We also call upon citizens to provide the financial support necessary to accomplish these purposes. Excellence costs. But in the long run mediocrity costs far more.

America Can Do It

Despite the obstacles and difficulties that inhibit the pursuit of superior educational attainment, we are confident, with history as our guide, that we can meet our goal. The American educational system has responded to previous challenges with remarkable success. In the 19th century our land-grant colleges and universities provided the research and training that developed our Nation's natural resources and the rich agricultural bounty of the American farm. From the late 1800s through mid-20th century, American schools provided the educated workforce needed to seal the success of the Industrial

Revolution and to provide the margin of victory in two world wars. In the early part of this century and continuing to this very day, our schools have absorbed vast waves of immigrants and educated them and their children to productive citizenship. Similarly, the Nation's Black colleges have provided opportunity and undergraduate education to the vast majority of college-educated Black Americans.

We must demand the best effort and performance from all students, whether they are gifted or less able, affluent or disadvantaged, whether destined for college, the farm, or industry.

More recently, our institutions of higher education have provided the scientists and skilled technicians who helped us transcend the boundaries of our planet. In the last 30 years, the schools have been a major vehicle for expanded social opportunity, and now graduate 75 percent of our young people from high school. Indeed, the proportion of Americans of college age enrolled in higher education is nearly twice that of Japan and far exceeds other nations such as France, West Germany, and the Soviet Union. Moreover, when international comparisons were last made a decade ago, the top 9 percent of American students compared favorably in achievement with their peers in other countries.

In addition, many large urban areas in recent years report that average student achievement in elementary schools is improving. More and more schools are also offering advanced placement programs and programs for gifted and talented students, and more and more students are enrolling in them.

We are the inheritors of a past that gives us every reason to believe that we will succeed.

A Word to Parents and Students

The task of assuring the success of our recommendations does not fall to the schools and colleges alone. Obviously, faculty members and administrators, along with policymakers and the mass media, will play a crucial role in the reform of the educational system. But even more important is the role of parents and students, and to them we speak directly.

To Parents

You know that you cannot confidently launch your children into

today's world unless they are of strong character and well-educated in the use of language, science, and mathematics. They must possess a deep respect for intelligence, achievement, and learning, and the skills needed to use them; for setting goals; and for disciplined work. That respect must be accompanied by an intolerance for the shoddy and second-rate masquerading as "good enough."

You have the right to demand for your children the best our schools and colleges can provide. Your vigilance and your refusal to be satisfied with less than the best are the imperative first step. But your right to a proper education for your children carries a double responsibility. As surely as you are your child's first and most influential teacher, your child's ideas about education and its significance begin with you. You must be a *living* example of what you expect your children to honor and to emulate. Moreover, you bear a responsibility to participate actively in your child's education. You should encourage more diligent study and discourage satisfaction with mediocrity and the attitude that says "let it slide"; monitor your child's study; encourage good study habits; encourage your child to take more demanding rather than less demanding courses; nurture your child's curiosity, creativity, and confidence; and be an active participant in the work of the schools. Above all, exhibit a commitment to continued learning in your own life. Finally, help your children understand that excellence in education cannot be achieved without intellectual and moral integrity coupled with hard work and commitment. Children will look to their parents and teachers as models of such virtues.

It is ... the America of all of us that is at risk. It is to each of us that this imperative is addressed.

To Students

You forfeit your chance for life at its fullest when you withhold your best effort in learning. When you give only the minimum to learning, you receive only the minimum in return. Even with your parents' best example and your teachers' best efforts, in the end it is *your* work that determines how much and how well you learn. When you work to your full capacity, you can hope to attain the knowledge and skills that will enable you to create your future and control your destiny. If you do not, you will have your future thrust upon you by others. Take hold of your life, apply your gifts and talents, work with dedication

and self-discipline. Have high expectations for yourself and convert every challenge into an opportunity.

A Final Word

It is by our willingness to take up the challenge, and our resolve to see it through, that America's place in the world will be either secured or forfeited. Americans have succeeded before and so we shall again.

This is not the first or only commission on education, and some of our findings are surely not new, but old business that now at last must be done. For no one can doubt that the United States is under challenge from many quarters.

Children born today can expect to graduate from high school in the year 2000. We dedicate our report not only to these children, but also to those now in school and others to come. We firmly believe that a movement of America's schools in the direction called for by our recommendations will prepare these children for far more effective lives in a far stronger America.

Our final word, perhaps better characterized as a plea, is that all segments of our population give attention to the implementation of our recommendations. Our present plight did not appear overnight, and the responsibility for our current situation is widespread. Reform of our educational system will take time and unwavering commitment. It will require equally widespread, energetic, and dedicated action. For example, we call upon the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, Science Service, National Science Foundation, Social Science Research Council, American Council of Learned Societies, National Endowment for the Humanities, National Endowment for the Arts, and other scholarly, scientific, and learned societies for their help in this effort. Help should come from students themselves; from parents, teachers, and school boards; from colleges and universities; from local, State, and Federal officials; from teachers' and administrators' organizations; from industrial and labor councils; and from other groups with interest in and responsibility for educational reform.

It is their America, and the America of all of us, that is at risk; it is to each of us that this imperative is addressed. It is by our willingness to take up the challenge, and our resolve to see it through, that America's place in the world will be either secured or forfeited. Americans have succeeded before and so we shall again.

Appendices

Appendix A: Charter National Commission on Excellence in Education

Authority

20 U.S.C. 1233a. The Commission is governed by the provisions of Part D of the General Education Provisions Act (P.L. 90-247 as amended; 20 U.S.C. 1233 *et seq.*) and the Federal Advisory Committee Act (P.L. 92-463; 5 U.S.C Appendix I) which set forth standards for the formation and use of advisory committees.

Purpose and Functions

The Commission advises and makes recommendations to the nation and to the Secretary of Education. To carry out this mission the Commission is charged with the following responsibilities:

(1) To review and synthesize the data and scholarly literature on the quality of learning and teaching in the nation's schools, colleges, and universities, both public and private, with special concern for the educational experience of teen-age youth;

(2) To examine and to compare and contrast the curricula, standards, and expectations of the educational systems of several advanced countries with those of the United States;

(3) To study a representative sampling of university and college admission standards and lower division course requirements with particular reference to the impact upon the enhancement of quality and the promotion of excellence such standards may have on high school curricula and on expected levels of high school academic achievement;

(4) To review and to describe educational programs that are recognized as preparing students who consistently attain higher than average scores in college entrance examinations and who meet with uncommon success the demands placed on them by the nation's colleges and universities;

(5) To review the major changes that have occurred in American education as well as events in society during the past quarter century that have significantly affected educational achievement;

(6) To hold hearings and to receive testimony and expert advice on efforts that could and should be taken to foster higher levels of quality and academic excellence in the nation's schools, colleges, and universities;

(7) To do all other things needed to define the problems of and the barriers to attaining greater levels of excellence in American education; and

(8) To report and to make practical recommendations for action to be taken by educators, public officials, governing boards, parents, and others having a vital interest in American education and a capacity to influence it for the better.

Structure

The Commission consists of at least 12, but not more than 19, public members appointed by the Secretary. The Secretary shall designate a chairperson from among the members. Among its members the Commission includes persons who are knowledgeable about educational programs at various levels and are familiar with views of the public, of employers, of educators, and of leaders of a range of professions regarding the status of education today, requirements for the future, and ways the quality of education for all Americans can be improved.

A quorum of the Commission is a majority of appointed members.

Terms of service of members end with the termination of the Commission.

Hearings on behalf of the Commission may be held by one or more members with the authorization of the chairperson.

The Commission may establish standing committees composed exclusively of its members. Each standing committee complies with the requirements of applicable statutes and Departmental regulations. Each committee presents to the Commission findings and recommendations for action by the full Commission. Timely notification of the establishment of a committee and any change therein, including its charge, membership, and frequency of meetings, will be made in writing to the Committee Management Officer. All committees act under the policies established by the Commission as a whole.

Management and staff services are provided by the Executive Director who serves as the Designated Federal Official to the Commission and by the National Institute of Education.

Meetings

The Commission meets approximately four times a year at the call of the Chairperson, with the advance approval of the Secretary or the Designated Federal Official who approves the agenda and is present or represented at

all meetings. Standing committees meet as required at the call of their Chairperson with the concurrence of the Commission Chairperson. All meetings are open to the public except as determined otherwise by the Assistant Secretary for Educational Research and Improvement. Notice of all meetings shall be given to the public. Meetings are conducted, and records of proceedings kept, in accordance with applicable laws and Department regulations.

Compensation

In accordance with the General Education Provisions Act and other applicable laws, Commission members shall be entitled to an honorarium of $100 per day for official business of the Commission. Their per diem and travel expenses will be paid in accordance with Federal Travel Regulations.

Annual Cost Estimate

Estimate of the direct cost for operating the Commission, including compensation and travel expenses for members as well as costs for studies, but excluding staff support, is $332,000. Estimate of annual person-years of staff required is 16. Estimate of direct annual costs for administrative support, staff and staff per diem and travel expenses is $453,000. The National Institute of Education will provide additional administrative and research assistance to the Commission.

Reports

In addition to its final report, which is expected eighteen months from the initial meeting, the Commission submits to the Congress by March 31 of each year an annual report which contains as a minimum a list of the names and business addresses of the members, a list of the dates and places of the meetings, the functions of the Commission, and a summary of Commission activities and recommendations made during the year. Such report is transmitted with the Secretary's annual report to Congress. The Commission makes such other reports or recommendations as may be appropriate. A copy of the annual report and other reports is provided to the Committee Management Officer.

Termination Date

It is estimated that the time necessary for the Commission to complete its activities and report is at least 18 months. Therefore, to insure the completion of the report, the Secretary determines that this Commission terminates not later than two years from the date of this Charter.

APPROVED:

August 5, 1981 — Secretary

Date

Appendix B: Schedule of the Commission's Public Events

Event	Date(s)	Place	Host(s)
Full Commission Meeting	October 9-10, 1981	Washington, D.C.	
Full Commission Meeting	December 7, 1981	Washington, D.C.	
Full Commission Meeting	February 25, 1982	Washington, D.C.	
Hearing—Science, Mathematics, and Technology Education	March 11, 1982	Stanford University Stanford, California	Donald Kennedy, President Stanford University J. Myron Atkin, Dean Graduate School of Education Stanford University
Hearing—Language and Literacy: Skills for Academic Learning	April 16, 1982	Houston Independent School District Houston, Texas	Raymon Bynum, Texas State Commissioner of Education Billy R. Reagan, General Superintendent Houston Independent School District
Panel Discussion—Performance Expectations in American Education	April 30, 1982	The University of Pennsylvania Philadelphia, Pennsylvania	Thomas Erlich, Provost The University of Pennsylvania
Hearing—Teaching and Teacher Education	May 12, 1982	Georgia State University Atlanta, Georgia	Alonzo Crim, Superintendent Atlanta Public Schools Sherman Day, Dean School of Education Georgia State University Barbara Hatton, Dean School of Education Atlanta University

In addition to these public events, the Commission members also attended a number of subcommittee meetings and worksessions over the course of 18 months.

Event	Date(s)	Place	Host(s)
Full Commission Meeting	May 25, 1982	Washington, D.C.	
Hearing—College Admissions and the Transition to Post-Secondary Education	June 23, 1982	Roosevelt University Chicago, Illinois	Rolf Weil, President Roosevelt University John Corbally, President John D. and Catherine T. MacArthur Foundation Chicago
Symposium—The Student's Role in Learning	July 30, 1982	San Diego State University California	Thomas Day, President San Diego State University Richard Atkinson, Chancellor University of California San Diego
Panel Discussion—College Curriculum: Shape, Influence, and Assessment	August 27, 1982	University of Rhode Island Kingston, Rhode Island	Frank Newman, President University of Rhode Island
Hearing—Education for a Productive Role in a Productive Society	September 16, 1982	St. Cajetan's Center Denver, Colorado	Robert Andringa, Executive Director Education Commission of the States Denver
Full Commission Meeting	September 28-29, 1982	New York, New York	Robert Payton, President Exxon Education Foundation Exxon Corporation New York, New York
Hearing—Education for the Gifted and Talented	October 15, 1982	Harvard University Cambridge, Massachusetts	Derek Bok, President Harvard University Patricia Albjerg Graham, Dean Harvard Graduate School of Education
Full Commission Meeting	November 15-16, 1982	Washington, D.C.	
Full Commission Meeting	January 21-22, 1983	Washington, D.C.	
Full Commission Meeting	April 26, 1983	Washington, D.C.	

Appendix C: Commissioned Papers

Author(s)	Paper
Joseph Adelson The University of Michigan, Ann Arbor	"Twenty-Five Years of American Education: An Interpretation"
Catherine P. Ailes Francis W. Rushing SRI International, Arlington, Virginia	"A Summary Report on the Educational Systems of the United States and the Soviet Union: Comparative Analysis"
Alexander W. Astin University of California, Los Angeles	"Excellence and Equity in American Education"
Alexander W. Astin University of California, Los Angeles	"The American Freshman, 1966-1981: Some Implications for Educational Policy and Practice"
Herman Blake University of California, Santa Cruz	"Demographic Change and Curriculum: New Students in Higher Education"
Richard I. Brod The Modern Language Association New York, New York Nicholas Farnham The International Council on the Future of the University New York, New York William V. Mayer Biological Sciences Curriculum Study Boulder, Colorado Robert A. McCaughey Barnard College, New York, New York	"University Entrance Examinations and Performance Expectations"
Barbara B. Burn Christopher H. Hurn University of Massachusetts, Amherst	"An Analytic Comparison of Educational Systems"
Philip Cusick Michigan State University, East Lansing	"Secondary Public Schools in America"
Paul DeHart Hurd Stanford University, California	"An Overview of Science Education in the United States and Selected Foreign Countries"
Walter Doyle University of Texas at Austin	"Academic Work"

Author(s)	Paper
Kenneth Duckworth University of Oregon, Eugene	"Some Ideas About Student Cognition, Motivation and Work" (A Critique of the Symposium on *The Student's Role in Learning*)
Max A. Eckstein Queens College/City of New York Flushing Susanne Shafer Arizona State University, Tempe Kenneth Travers University of Illinois, Champaign-Urbana	"A Comparative Review of Curriculum: Mathematics and International Studies in the Secondary Schools of Five Countries"
Eleanor Farrar The Huron Institute Cambridge, Massachusetts Matthew B. Miles Center for Policy Research New York, New York Barbara Neufeld The Huron Institute Cambridge, Massachusetts	"A Review of Effective Schools Research: Implications for Practice and Research"
Zelda Gamson University of Michigan, Ann Arbor	"A Little Light on the Subject: Keeping General and Liberal Education Alive"
William E. Gardner University of Minnesota, Minneapolis John R. Palmer University of Wisconsin, Madison	"Certification and Accreditation: Background, Issue Analysis, and Recommendations"
Thomas L. Good University of Missouri-Columbia	"What Is Learned in Schools: Responding to School Demands, Grades K-6"
Thomas L. Good Gail M. Hinkel University of Missouri-Columbia	"Schooling in America: Some Descriptive and Explanatory Statements"
Donald B. Holsinger State University of New York, Albany	"Time, Content and Expectations as Predictors of School Achievement in the U.S.A. and Other Developed Countries: A Review of IEA Evidence"
Kenneth R. Howey University of Minnesota, Minneapolis	"Charting Directions for Preservice Teacher Education"

Author(s)	Paper
Torsten Husen University of Stockholm, Sweden	"A Cross-National Perspective on Assessing the Quality of Learning"
Nancy Karweit Johns Hopkins University Baltimore, Maryland	"Time on Task: A Research Review"
Howard London Bridgewater State College Massachusetts	"Academic Standards in the American Community College: Trends and Controversies"
Martin L. Maehr University of Illinois, Champaign-Urbana	"Motivational Factors in School Achievement"
Matthew B. Miles Center for Policy Research New York, New York Eleanor Farrar Barbara Neufeld The Huron Institute Cambridge, Massachusetts	"The Extent of Adoption of Effective Schools Programs"
Barbara Neufeld Eleanor Farrar The Huron Institute Cambridge, Massachusetts Matthew B. Miles Center for Policy Research New York, New York	"A Review of Effective Schools Research: The Message for Secondary Schools"
William Neumann Syracuse University, New York	"College Press and Student Fit"
C. Robert Pace University of California, Los Angeles	"Achievement and Quality of Student Effort"
Harvey L. Prokop San Diego Unified School District California	"Intelligence, Motivation and the Quantity and Quality of Academic Work and Their Impacts on the Learning of Students: A Practitioner's Reaction" (A Critique of the Symposium on *The Student's Role in Learning*)
Lauren B. Resnick University of Pittsburgh, Pennsylvania	"Standards, Curriculum, and Performance: An Historical and Comparative Perspective"

Author(s)	Paper
Daniel P. Resnick Carnegie-Mellon University Pittsburgh, Pennsylvania	
Frederick Rudolph Williams College Williamstown, Massachusetts	"Educational Excellence—The Secondary School-College Connection and Other Matters: An Historical Assessment"
Clifford Sjogren University of Michigan, Ann Arbor	"College Admissions and the Transition to Postsecondary Education: Standards and Practices"
Richard E. Snow Stanford University, California	"Intelligence, Motivation and Academic Work" (A Critique of the Symposium on *The Student's Role in Learning*)
Robert J. Sternberg Richard Wagner Yale University, New Haven, Connecticut	"Understanding Intelligence: What's in It for Educators?"
Deborah Stipek University of California, Los Angeles	"Motivating Students to Learn: A Lifelong Perspective"
Judith Torney-Purta University of Maryland, College Park John Schwille Michigan State University, East Lansing	"The Values Learned in School: Policy and Practice in Industrialized Countries"
Beatrice Ward John R. Mergendoller Alexis L. Mitman Far West Laboratory for Educational Research and Development San Francisco, California	"The Years Between Elementary School and High School: What Schooling Experiences Do Students Have?"
Jonathan Warren Educational Testing Service Berkeley, California	"The Faculty Role in Educational Excellence"
Dean K. Whitla Harvard University Cambridge, Massachusetts	"Value Added and Other Related Matters"
Sam J. Yarger Syracuse University, New York	"Inservice Education"

Author(s)	Paper
Herbert Zimiles Bank Street College of Education New York, New York	"The Changing American Child: The Perspective of Educators"

Commissioned papers will be available in the ERIC system after July 1983 (See Ordering Information).

Also available through the ERIC system after July 1983:

Clifford Adelman National Institute of Education Washington, D.C.	"A Study of High School Transcripts, 1964-1981"

Appendix D: Hearing Testimony

Science, Mathematics, and Technology Education

H. Guyford Stever, National Academy of Sciences, Washington, D.C.
Bernard M. Oliver, Hewlett-Packard Company, Palo Alto, California
Henry L. Alder, University of California, Davis, representing the Council of Scientific Society Presidents
Sarah E. Klein, Roton Middle School, Norwalk, Connecticut, representing the National Science Teachers Association
Harold D. Taylor, Hillsdale High School, San Mateo, California, representing the National Council of Teachers of Mathematics

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John Martin, Palo Alto Unified School District, California
Ruth Willis, Hamilton Junior High School, Oakland, California
Sam Dederian, San Francisco Unified School District, California
Leroy Finkel, San Mateo County Office of Education, California
Olivia Martinez, San Jose Unified School District, California
Robert Bell, General Electric Company, San Jose, California
Judith Hubner, representing the Governor's Office, State of California
Robert W. Walker, De Anza-Foothill Community College District, California
Nancy Kreinberg, Lawrence Hall of Science, Berkeley, California
Robert Finnell, Lawrence Hall of Science, Berkeley, California
Marian E. Koshland, University of California, Berkeley, representing the National Science Board
Alan M. Portis, University of California, Berkeley, representing the Education Committee of the American Physical Society
Leon Henkin, University of California, Berkeley, representing the U.S. Commission on Mathematical Instruction
John Pawson, Edison High School, Huntington Beach, California
Alan Fibish, Lowell High School, San Francisco, California
Juliet R. Henry, representing the California Teachers Association
Jess Bravin, Board of Education, Los Angeles, California

Frank Oppenheimer, Exploratorium, San Francisco, California
Leigh Burstein, University of California, Los Angeles
Judy Chamberlain, Cupertino Unified School District, California
Michael Summerville, Fremont Unified High School District, California
Ted Perry, San Juan Unified School District, California
Paul DeHart Hurd, Stanford University, California
Elizabeth Karplus, Campolindo High School, Moraga, California

Louis Fein, Palo Alto Learners Association, California
Bob McFarland, representing the California Math Council
Katherine Burt, Cupertino Elementary School District, California
Leo Ruth, California Engineering Foundation

Gordon M. Ambach, State Education Department, Albany, New York
James L. Casey, State Department of Education, Oklahoma City, Oklahoma
Carolyn Graham, Jefferson Elementary School, Burbank, California
Marcy Holteen, Ambler, Pennsylvania
Howard C. Mel and Kay Fairwell, Lawrence Hall of Science, Berkeley, California
Jean Phillips, Thousand Oaks, California
Simon Ramo, the TRW-Fujitsu Company, Redondo Beach, California
Gerhardt W. Reidel, University of West Los Angeles, Culver City, California
Carl L. Riehm, Virginia State Department of Education, Richmond, Virginia
John H. Saxon, Norman, Oklahoma
Thomas O. Sidebottom, Interactive Sciences, Inc., Palo Alto, California
Karl Weiss, Northeastern University, Boston, Massachusetts
Jan West, Oroville, California

Related Activities in the Bay Area

Site Visit

Lawrence Hall of Science
University of California, Berkeley
Howard C. Mel, Director

Tour of the Paul and Jean Hanna Collection on the Role of Education and the Archives and Library at the Hoover Institution, Stanford University

Dinner with business, education, and community leaders

Sponsored by the Chamber of Commerce of the United States, Western Regional Office, and the William and Flora Hewlett Foundation

Language and Literacy: Skills for Academic Learning

Richard C. Anderson, University of Illinois, Champaign-Urbana
Margaret Smith-Burke, New York University, New York
Donald Graves, University of New Hampshire, Durham
Eileen Lundy, University of Texas, San Antonio
Ray Clifford, Defense Language Institute, Presidio of Monterey, California
Lily Wong-Fillmore, University of California, Berkeley

Victoria Bergin, Texas Education Agency, Austin
Alan C. Purves, University of Illinois, Champaign-Urbana
Delia Pompa, Houston Independent School District, Texas
Olivia Munoz, Houston Independent School District, Texas
James Kinneavy, University of Texas, Austin
Betty Von Maszewski, Deer Park Independent School District, Texas
Claire E. Weinstein, University of Texas, Austin
Patricia Sturdivant, Houston Independent School District, Texas

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June Dempsey, University of Houston, Texas, representing the American Association of Community and Junior Colleges, the Western College Reading Association, and the National Association for Remedial and Developmental Studies in Postsecondary Education
Jane Porter, College Board, Austin, Texas
Kay Bell, Texas Classroom Teachers Association, Austin, Texas
Judy Walker de Felix, University of Houston, Texas
Barbara Glave, University of Houston, Texas, representing the Houston Area Teachers of Foreign Language
Dora Scott, Houston Independent School District, Texas, representing the National Education Association and the Texas State Teachers Association, Houston
Georgette Sullins, Spring Independent School District, Texas
Renate Donovan, Spring Branch Independent School District, Texas

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Gordon M. Ambach, State Education Department, Albany, New York
Jo Bennett and Jean Parochetti, Alvin Community College, Texas
Sharon Robinson, National Education Association, Washington, D.C.
Donald L. Rubin, University of Georgia, Athens, representing the Speech Communication Association
Robert N. Schwartz, University of Houston, Texas
Ralph C. Staiger, International Reading Association, Newark, Delaware
Helen Warriner-Burke and Carl L. Riehm, Department of Education, Richmond, Virginia
William Work, Speech Communication Association, Annandale, Virginia
Daryl R. Yost, East Allen County Schools, New Haven, Indiana

Related Activities in Houston

Site visits coordinated by the Office of the General Superintendent of the Houston Independent School District

- Briargrove Elementary School
- Wilson Elementary School
- Clifton Middle School
- Bellaire High School
- High School for Engineering Professions

High School for Health Professions
High School for Performing and Visual Arts

Writing as an activity is not honored by the American public in the opinion of the students. They see a surface picture, dominated by television, film and radio, in which the acts of writing and reading are not viewed as important or even relevant. The cultural heroes are athletes, actresses, actors, politicians and big business tycoons. None seemingly needs reading or writing to achieve their stature.

James Kinneavy
University of Texas
Austin

Teaching and Teacher Education

Gary Sykes, National Institute of Education, Washington, D.C.
Gary Fenstermacher, Virginia Polytechnic Institute and State University, Blacksburg
David G. Imig, American Association of Colleges for Teacher Education, Washington, D.C.
Anne Flowers, Georgia Southern University, Statesboro
Barbara Peterson, Seven Oaks Elementary School, Columbia, South Carolina
Eva Galumbos, Southern Regional Education Board, Atlanta, Georgia
Robert Scanlon, Pennsylvania State Department of Education, Harrisburg
Ralph Turlington, Florida State Department of Education, Tallahassee
Gail MacColl, National Institute of Education, Washington, D.C.
Kathy Jones, Roan State Community College, Harriman, Tennessee, representing the National Education Association
Mary Lou Romaine, Atlanta Federation of Teachers, Georgia, representing the American Federation of Teachers
Janet Towslee-Collier, Georgia State University, Atlanta, representing the Association of Teacher Educators
Robert Fortenberry, Jackson City Schools, Mississippi, representing the American Association of School Administrators
Nicholas Hobar, West Virginia Department of Education, Charleston, representing the National Association of State Directors of Teacher Education and Certification
Fred Loveday, Georgia Private Education Council, Smyrna, representing the Council for American Private Education
James Lowden, Alabama Christian Education Association, Prattville, representing the American Association of Christian Schools
J.L. Grant, Florida State University, Tallahassee, representing the American Association for Colleges of Teacher Education
Carolyn Huseman, Georgia State Board of Education, representing the National Association of State Boards of Education

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Robert Fontenot, University of Southwestern Louisiana, LaFayette
Nancy Ramseur, Camden High School, South Carolina
Eugene Kelly, George Washington University, Washington, D.C.
Richard Hodges, Decatur, Georgia
James Gray, University of California, Berkeley
Robert Dixon, Institute for Research, Development and Engineering in Nuclear Energy, Atlanta, Georgia
Pat Woodall, Columbus, Georgia

Wayne Wheatley, Furman University, Greenville, South Carolina, representing the Council for Exceptional Children
Joe Hasenstab, Project Teach, Westwood, New Jersey
William Drummond, University of Florida, Gainesville
Debbie Yoho, Southeastern Regional Teacher Center, Columbia, South Carolina
Donald Gallehr, Virginia Writing Project, Fairfax
James Collins, National Council of States on In-service Education, Syracuse, New York
Ann Levy, Project New Adventure in Learning, Tallahassee, Florida
Bill Katzenmeyer, University of South Florida, Tampa
Walt Mika, Virginia Education Association
Eunice Sims, Georgia Writing Project, Atlanta

Elaine Banks and Sam Sava, National Association of Elementary School Principals, Reston, Virginia
Alandino A. Burchianti, Masontown, Pennsylvania
Roy Edelfelt, Washington, D.C.
Ed Foglia, California Teachers Association, Burlingame
June Johnson, New Adventure in Learning, Tallahassee, Florida
Richard A. Krueger, Staples Teacher Center, Minnesota
Clare Miezio, Eagle Forum Education Committee, Schaumburg, Illinois
Donald L. Rubin, University of Georgia, Athens, representing the Speech Communication Association Committee on Assessment and Testing
Daryl R. Yost, East Allen County Schools, New Haven, Indiana

Realizing aptitudes and performance expectations early in the training program will force the teacher education student to determine if he or she will survive in a profession where effective members are those who believe all students can learn and take the responsibility upon themselves to see that they do.

Robert Fortenberry
Jackson City Schools
Mississippi

Related Activities in Atlanta

Site Visits
- Douglas High School
  - L.W. Butts, Principal
- Mays High School
  - Thomas E. Wood, Jr., Principal

Lunch with local dignitaries hosted by Georgia State University

Dinner with business, education, and community leaders
- Coordinated by the Atlanta Partnership of Business and Education
- Sponsored by FABRAP Architects, Inc., and the Coca-Cola Company

College Admissions and the Transition to Postsecondary Education

Clifford Sjogren, University of Michigan, Ann Arbor
Ralph McGee, New Trier Township High School, Winnetka, Illinois
Alice Cox, University of California Systemwide Administration, Berkeley
George Stafford, Prairie View A&M University, Texas
Fred Hargadon, Stanford University, California
Margaret MacVicar, Massachusetts Institute of Technology, Cambridge

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Lois Mazzuca, National Association of College Admissions Counselors, Rolling Meadows, Illinois
Ora McConnor, Chicago Public Schools, Illinois
Theodore Brown, Hales Franciscan High School, Chicago, Illinois
Charles D. O'Connell, University of Chicago, Illinois
Oscar Shabat, Chicago Community College System, Illinois
Arnold Mitchum, Marquette University, Milwaukee, Wisconsin
Michael Kean, Educational Testing Service, Midwestern Regional Office, Evanston, Illinois
John B. Vaccaro, The College Board, Midwestern Regional Office, Evanston, Illinois
William Kinnison, Wittenberg University, Springfield, Ohio

William J. Pappas, Northview High School, Grand Rapids, Michigan
Carmelo Rodriguez, ASPIRA of Illinois, Chicago
Jeffrey Mallow, Loyola University, Chicago, Illinois
Carol Elder, Local 4100 of American Federation of Teachers, Chicago, Illinois
Bettye J. Lewis, Michigan Alliance of Families
Rachel Ralya, Michigan Alliance of Families
Austin Doherty, Alverno College, Milwaukee, Wisconsin

Gordon M. Ambach, State Education Department, Albany, New York
Gordon C. Godbey, Pennsylvania Association for Adult Continuing Education
Daryl R. Yost, East Allen County Schools, New Haven, Indiana

Related Activities in Chicago

Site Visits

Standard Oil of Indiana

Gene E. Cartwright, Manager of Employee Relations
Joseph Feeney, Director, Training and Personnel Planning

Continental Illinois Bank
Jennifer Olsztynski, Personnel Manager
De Paul University
Rev. John T. Richardson, President
David Justice, Dean, School for New Learning

Luncheon with leaders of higher education institutions
Sponsored by the John D. and Catherine T. MacArthur Foundation

Dinner with business, education, and community leaders
Sponsored by the John D. and Catherine T. MacArthur Foundation
Chaired by Stanley O. Eikenberry, President, University of Illinois

Education for a Productive Role in a Productive Society

Daniel Saks, Brookings Institution, Washington, D.C.
Roy Forbes, Education Commission of the States, Denver, Colorado
Sol Hurwitz, Committee for Economic Development, New York, New York
Martha Brownlee, Naval Education and Training for Research and Development, Pensacola, Florida
Norman Pledger, Colorado AFL-CIO, Denver

Lucretia James, Storage Technology, Inc., Louisville, Colorado
Kathy Collins Smith, American Institute of Banking, Denver, Colorado
Wade Murphree, Denver Institute of Technology, Colorado
Calvin Frazier, State Department of Education, Denver, Colorado
Robert Taylor, The Ohio State University, Columbus
John Peper, Jefferson County Schools, Lakewood, Colorado
Michael A. MacDowell, Joint Council on Economic Education, New York, New York
Larry Brown, 70001, Inc., Washington, D.C.
Robert Stewart, University of Missouri, Columbia
Gordon Dickinson, Colorado Community College and Vocational Education Board, Sterling
Karl Weiss, Northeastern University, Boston, Massachusetts
Donald Schwartz, University of Colorado, Colorado Springs

Patricia Brevik, Auraria Library and Media Center, Denver, Colorado
John Dromgoole, National Commission on Cooperative Education, Boston, Massachusetts
Faith Hamre, Littleton Public Schools, Ohio

We're in the student learning business, and if we're going to have effectiveness in terms of student learning we've got to have good teachers, and we've got to have sound management.

Ralph Turlington
Florida State Department of Education
Tallahassee

Vernon Broussard, National Council on Vocational Education, Culver City, California
David Terry, Utah System of Higher Education, Salt Lake City
Georgia Van Adestine, Western Michigan University, Kalamazoo, Michigan
Gordon E. Heaton, Colorado Education Association, Aurora, Colorado
Young Jay Mulkey, American Institute for Character Education, San Antonio, Texas
George P. Rusteika, Far West Laboratory for Educational Research and Development, San Francisco, California

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Donald Clark, National Association for Industry-Education Cooperation, Buffalo, New York
Jacqueline Danzberger, Youth-Work, Inc., Washington, D.C.
Charles Davis, Education Clinics, Inc., Seattle, Washington
Dennis A. Dirksen, San Diego State University, California
Ben Lawrence, National Center for Higher Education Management Systems, Boulder, Colorado
Bill Rosser and Jennie Sanchez, Chicano Education Project, Denver, Colorado
Sandra K. Squires, University of Nebraska, Omaha

Related Activities in the Denver Area

Site Visits

Warren Occupational Technology Center, Golden
Byron Tucker, Principal

Mountain Bell Education and Training Center, Lakewood
Fred Wells, Director

Career Education Center, Denver
John Astuno, Principal

Emily Griffith Opportunity School, Denver
Butch Thomas, Principal

Luncheon discussion with Robert Worthington, Assistant Secretary for Vocational and Adult Education, U.S. Department of Education, Washington, D.C.

Dinner discussion with Willard Wirtz, National Institute for Work and Learning, Washington, D.C., and Henry David, National Institute of Education, Washington, D.C.

Dinner with business, education, and community leaders
Sponsored by the Education Commission of the States
Chaired by Calvin Frazier, Commissioner of Education, Colorado

Education for the Gifted and Talented

James J. Gallagher, University of North Carolina, Chapel Hill
Marcel Kinsbourne, Eunice Kennedy Shriver Center, Waltham, Massachusetts
Joseph Renzulli, University of Connecticut, Storrs
David Feldman, Tufts University, Medford, Massachusetts

William Durden, Johns Hopkins University, Baltimore, Maryland
Connie Steele, Texas Technical University, Lubbock
Isa Kaftal Zimmerman, Lexington Public Schools, Massachusetts
Alexinia Baldwin, State University of New York, Albany

Arthur Pontarelli, Rhode Island State Department of Education, Providence
Armand E. Bastastini, Jr., Rhode Island State Legislature, Providence
William R. Holland, Narragansett School District, Rhode Island
Melissa Lawton, Bristol School District, Rhode Island
Rachel Christina, Bristol School District, Rhode Island
Catherine Valentino, North Kingstown School District, Rhode Island
Marie Friedel, National Foundation for Gifted and Creative Children, Providence, Rhode Island
Marsha R. Berger, Rhode Island Federation of Teachers, Providence
Sidney Rollins, Rhode Island College, Providence
David Laux, State Advocates for Gifted Education, Providence, Rhode Island
James A. Di Prete, Coventry High School, Rhode Island
Harold Raynolds, Maine State Department of Education, Augusta
June K. Goodman, Connecticut State Board of Education, Hartford
Mary Hunter Wolfe, Connecticut State Task Force on Gifted and Talented Education, Hartford
Paul Regnier, speaking on behalf of Gordon Ambach, State Education Department, Albany, New York
Benson Snyder, Massachusetts Institute of Technology, Cambridge, Massachusetts
June Cox, Sid Richardson Foundation, Fort Worth, Texas
Loretta L. Frissora, Needham Public Schools, Massachusetts, representing the National Education Association
Patricia O'Connell, Augusta, Maine, representing the Council of State Directors for Programs for the Gifted

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Virginia Ehrlich, Astor Program Studies for Gifted, Suffern, New York
Gloria Duclos, University of Southern Maine, Portland
Anton Lysy, Londonderry School District, New Hampshire
Rhoda Spear, New Haven Schools, Connecticut

Fortunately for my students, I have found a school district where teachers are considered valuable professionals and where professional development is taken seriously.

Debbie Yoho
Southeastern Regional Teacher Center
Columbia, South Carolina

Judith Grunbaum, Southeastern Massachusetts University, North Dartmouth
Vincent Hawes, American Association of State Colleges and Universities, Washington, D.C.
Dorothy Moser, Mortar Board, Inc., Columbus, Ohio
Wendy Marcks, Chelmsford Association for Talented and Gifted, Massachusetts
James DeLisle, University of Connecticut, Storrs
Naomi Zymelman, Charles E. Smith Jewish Day School, Rockville, Maryland
Sherry Earle, Connecticut Association for the Gifted, Danbury
C. Grey Austin, University of Georgia, Athens
Sally Reis, Council for Exceptional Children, Talented and Gifted Division, Reston, Virginia
Betty T. Gilson, Brockton Public Schools, Massachusetts
Roberta McHardy, Louisiana Department of Education, Baton Rouge
Felicity Freund, Gifted Child Society, Oakland, New Jersey
Lydia Smith, Simmons College, Boston, Massachusetts
Betsy Buchbinder, Massachusetts Association for Advancement of Individual Potential, Milton
Artemis Kirk, Simmons College, Boston, Massachusetts, representing the Association of College and Research Libraries

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Elizabeth F. Abbott, Governor's Program for Gifted and Talented, Gainesville, Florida
James Alvino, Gifted Child Newsletter, Sewell, New Jersey
Gordon M. Ambach, State Education Department, Albany, New York
Association of San Diego Educators for the Gifted and Talented, California
Philip J. Burke and Karen A. Verbeke, University of Maryland, College Park
Sheila Brown, Nebraska Department of Education, Lincoln
California Association for the Gifted, Downey
Carolyn M. Callahan, The Association for the Gifted
Anne B. Crabbe, Coe College, Cedar Rapids, Iowa
Roxanne H. Cramer, American Mensa, Arlington, Virginia
Neil Daniel, Texas Christian University, Fort Worth
Sue Ellen Duggan and Mary Lou Fernandes, Lackawanna City School District, New York
John F. Feldhusen, Purdue University, West Lafayette, Indiana
Frank F. Fowle, III, Clayton, Missouri
Joseph Harrington, College Academy, Stoughton, Massachusetts
Anne E. Impellizzeri, American Association for Gifted Children
Betty Johnson, Minnesota Council for the Gifted and Talented, Minneapolis

Our greatest resource and the greatest resource of any nation is the education of its people.

Norman Pledger
Colorado AFL-CIO
Denver

Nancy Kalajian, Sommerville, Massachusetts
John Lawson, Massachusetts Department of Education, Quincy
Barbara Lindsey, Southwest Iowans for Talented and Gifted, Council Bluffs
Diane Modest, Framingham Public Schools, Massachusetts
Jack L. Omond, Office for the Gifted, Port Elizabeth, South Africa
Arthur Purcell, Resource Policy Institute, Washington, D.C.
Annette Raphel, Milton Academy, Massachusetts
Susanne Richert, Educational Improvement Center, Sewell, New Jersey
Carl L. Riehm, Virginia State Department of Education, Richmond
Terry Ruby, Raynham Public Schools, Massachusetts
Barbara Moore Schuch, San Diego City Schools, California
Dorothy Sisk, University of South Florida, Tampa
Mercedes Smith, Gifted Association of Missouri, Springfield
Christopher L. Sny, Janesville Public Schools, Wisconsin
Julian C. Stanley, SMPY, Department of Psychology, Johns Hopkins University, Baltimore, Maryland
Jo Thomason and Frederick J. Weintraub, Council for Exceptional Children, Reston, Virginia
Jo Anne Welch, Mississippi Association for the Talented and Gifted

within any human group, any ethnic or socio-economic sample, there will be people of high intellectual potential but none of them will realize their potential unless they are also afforded the opportunity to do so.

Marcel Kinsbourne
Eunice Kennedy Shriver Center
Waltham, Massachusetts

Related Activities in the Boston Area

Site Visits

Buckingham, Brown and Nichols School, Cambridge
Peter Gunness, Headmaster
Brookline High School, Brookline
Robert McCarthy, Headmaster

Secretary's Regional Representatives

The Secretary's Regional Representatives held their own conferences or hearings for educators in their regions in order to provide additional testimony to the Commission. In addition to these events, they also supported the hearings the Commission sponsored in their regions.

Region I, Wayne Roberts
Boston, Massachusetts
Forum on Effective Schools, September 16, 1982

Region II, Lorraine Colville
New York, New York
Forum on Excellence, October 21, 1982

Region III, Joseph Ambrosino
Philadelphia, Pennsylvania
Hearing/Conference on Cooperative Education, October 11, 1982

Region IV, Ted B. Freeman
Atlanta, Georgia
Public Meeting on Excellence in Education, October 22, 1982

Region V, Harold Wright
Chicago, Illinois
Excellence in Education: Preparation for the Transition to Higher Education, October 6, 1982

Region VI, Scott Tuxhorn
Dallas, Texas
Public Hearing on Excellence in Education, October 4, 1982

Region VII, Cynthia A. Harris
Kansas City, Missouri
Rural and Small Schools Excellence, October 26, 1982

Region VIII, Tom Tancredo
Denver, Colorado
Conference on Excellence in Education, November 12-13, 1982

Region IX, Eugene Gonzales
San Francisco, California
The Teacher: Key to Excellence in the Classroom, October 18, 1982

Region X, George Hood
Seattle, Washington
Public Hearing, June 25, 1982, August 27, 1982
(Hearing Officer: Hyrum M. Smith)

Transcripts of the preceding hearings sponsored by and for the Commission will be available in the ERIC System (See Ordering Information).

In addition to these hearings sponsored by and for the Commission, Commission members participated in a series of site visits and a public hearing focusing on Excellence in Rural Education. These events took place on April 23-24, 1982, in Kentucky. The hearing was held at the University of Kentucky-Somerset Community College.

Appendix E: Other Presentations to the Commission

Adrienne Bailey, The College Board, New York, New York
Stephen Bailey, Harvard Graduate School of Education, Cambridge, Massachusetts
Irene Bandy, Ohio Department of Education, Columbus
Elias Blake, Clark College, Atlanta, Georgia
Lewis M. Branscomb, National Science Board, Washington, D.C.
David Burnett, University of Pennsylvania, Philadelphia
Lawrence Cremin, Teachers College, Columbia University, New York, New York
James V. Gaddy, New Rochelle High School, New York
John Goodlad, University of California, Los Angeles
Elaine Hairston, Ohio Board of Regents, Columbus
John Hurley, INA Corporation (Now CIGNA), Philadelphia, Pennsylvania
Edward Kelly, State University of New York at Albany
Robert McMillan, University of Rhode Island, Kingston
Edward Pellegrino, Georgetown Medical Center, Washington, D.C.
Francis Roberts, National Endowment for the Humanities, Washington, D.C.
David S. Seeley, Staten Island, New York
John Sprott, U.S. Department of State, Washington, D.C.
Carol Stoel, U.S. Department of Education, Washington, D.C.
Abraham Tannenbaum, Teachers College, Columbia University, New York, New York
Harold Tragash, Xerox Corporation, Stamford, Connecticut

Appendix F: Notable Programs

Institutions Which Submitted Profiles of Programs

With the assistance of a variety of organizations, the Commission conducted four searches for examples of notable programs and promising approaches to specific problems in American education. Our purpose was to understand better how schools, school districts, colleges, and other education organizations were defining and addressing these problems. Where the evidence was convincing, we also sought to learn what made successful programs work in different settings.

The Commission's procedure in these four searches was to solicit original profiles of these programs and approaches, profiles that would answer a number of key questions concerning their purpose, content, organization, impact, and transferability.

Evidence of program success was provided wholly by the institution submitting the profile. The Commission is, thus, in no position to validate these programs or to claim any of them to be "exemplary."

Over 200 schools, school districts, colleges, and other educational organizations responded to our solicitations. They sent in profiles and other descriptions of nearly 300 programs. Due to the specific problems on which we were seeking information (e.g., the transition from secondary to postsecondary education, the use of educational technology, mathematics education, cooperative educational ventures with business and industry), most of the respondents were postsecondary institutions. But many of the profiles submitted by colleges involved programs developed for or with elementary and/or secondary schools and are in operation in many school districts.

For their assistance in the efforts to identify and solicit this information, we are particularly grateful to the American Council on Education, the American Association for Higher Education, the American Association of State Colleges and Universities, the American Association of Community and Junior Colleges, the National Association of Secondary School Principals, the Academy for Educational Development, the Council on American Private Education, and the Fund for the Improvement of Postsecondary Education.

The following document will be available in the ERIC System sometime after July, 1983 (See Ordering Information):

Authors	Paper
Clifford Adelman National Institute of Education Washington, D.C. Elaine Reuben Elaine Reuben Associates Washington, D.C.	"Notable Programs in American Postsecondary Education: Selected Analytical Abstracts"

Appendix G: Acknowledgments

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